Olin
3855 NORTH OCOEE STREET, SUITE 200, CLEVELAND, TN. 37312
(423) 336-4000 FAX (423) 336-4166

January 17, 2011

Wilmington, MA 01887

Re: Residential Well Sampling Program

Dear

Please find enclosed the data validation summary and laboratory analytical data from the independent laboratory that analyzed the water samples collected in July and August 2010 from your home. In the attached information, references to samples that were not collected from your property have been "blacked out" to avoid confusion. Also enclosed is a review by the consultant that has been retained to review all data that is related to human health that might be associated with the Olin facilities located at 51 Eames Street.

As you can see from the report, the only analytical result above the regulatory standard or guideline was for dissolved sodium. The guideline for sodium was established so that people on a salt restricted diet would be aware of the sodium content of their water.

Should there be any questions after you review this information, you can call the facility at (978)658-6121. Inform them that you would like for me to call you, and I will return your call.

Sincerely,

Steve Morrow
Principal Environmental Specialist

cc: Jim DiLorenzo, USEPA

U.S. Postal Service™
CERTIFIED MAIL™ RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

For delivery information visit our website at www.usps.com®

OFFICIAL USE

Postage $
Certified Fee — SENT TO POST OFFICE
Return Receipt Fee (Endorsement Required) — JAN 18 2011
Restricted Delivery Fee (Endorsement Required)
Total Postage & Fees $

Postmark Here

7009 1410 0001 6409 0909

Wilmington, MA 01887

See Reverse for Instructions

SENDER: *COMPLETE THIS SECTION*

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Wilmington, MA 01887

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X [signature] ☐ Agent ☐ Addressee

B. Received by *(Printed Name)*

C. Date of Delivery 1/21/11

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☐ Certified Mail ☐ Express Mail
☒ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

7009 1410 0001 6409 0909

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

REDACTED

MACTEC

engineering and constructing a better tomorrow

January 11, 2011

Mr. Steve Morrow
Olin Corporation
3855 North Ocoee St., Suite 200
Cleveland, TN 37312

Subject: **Residential Well Sampling**
51 Eames Street Facility

Dear Mr. Morrow:

Per your request, MACTEC Engineering and Consulting has evaluated the chemical data for the water samples collected in July and August 2010 from the residence in Wilmington under Olin's residential well sampling program. This evaluation was performed to confirm the suitability of drinking water at the residential property. Chemical concentrations in the well water were compared to Massachusetts and federal drinking water standards and guidelines.

Attached is a table summarizing well monitoring data for the residence. The table lists all detected analytes and their associated concentrations. The appropriate standard and/or guideline for each parameter is provided for comparison.

The reported concentrations for sodium (23 milligrams per liter (mg/L) in July and 25 mg/L in August) are above the concentration of 20 mg/L recommended in the Massachusetts Drinking Water Guidelines (ORSG). There is no federal drinking water standard for sodium. The ORSG guideline was published so that public water supplies could notify people on salt restricted diets that the water is a source of sodium. Residents on salt restricted diets should be aware of the sodium content of the water. Elevated sodium concentrations are common in groundwater in the Wilmington area due to road salting practices.

The water testing results shown here indicate that the overall well water quality is consistent with available Massachusetts and federal drinking water standards and guidelines.

If you have any questions about the evaluation or if you require additional information, please feel free to contact Michael Murphy at (781) 245-6606.

Sincerely,
MACTEC Engineering and Consulting, Inc.

MACTEC Electronic Signature
Peter Thompson
Project Manager

Michael J. Murphy
Sr. Principal Environmental Scientist

Attachment

cc: MACTEC Project File
(P:\61\07\00016 - Olin Wilmington CSS 2010\1.0 Project Management Administration\1.5 Correspondence\1.5.2 Letters\ July 2010 Ltr to Olin 01111.docx)

REDACTED

SUMMARY OF PRIVATE RESIDENCE WELL MONITORING DATA [1]
AND COMPARISON TO FEDERAL AND MASSACHUSETTS DRINKING WATER STANDARDS/GUIDELINES

RESIDENCE

Parameter	Sample Results 7/1/2010	Sample Results 8/6/2010	Units	Drinking Water Standard/Guideline	Type of Standard/Guideline
Volatiles					
None Detected	--	--	--	--	--
Semi-Volatiles					
1-Methylnaphthalene	--	0.000052 J	mg/L	0.0002	MCL[2]
N-Nitrosodimethylamine					
N-Nitrosodimethylamine	0.0000029	--	mg/L	0.00001	ORSG
N-Nitrosodi-n-propyl-amine					
Not Detected	--	--	--	--	--
Metals					
Calcium, Total	82	79	mg/L	NS	NS
Chromium	--	0.001 J	mg/L	0.1	MCL
Sodium, Total	23	25	mg/L	20	ORSG
Ammonia					
Not Detected	--	--	--	--	--
Anions					
Sulfate as SO_4	36	41 J	mg/L	250	SMCL
Nitrate	0.064	--	mg/L	10	MCL
Chloride	110	92 J	mg/L	250	SMCL
Acetaldehyde/Formaldehyde					
Formaldehyde	--	0.0051 J	mg/L	NS	NS
Hydrazines					
None Detected	--	--	--	--	--

Notes:
-- Results are non-detect.
NS - No standard or guideline available
MCL - Federal and Massachusetts Maximum Contaminant Level - USEPA, 2009; MassDEP, 2010
SMCL - Federal and Massachusetts Secondary Maximum Contaminant Level - USEPA, 2009; MassDEP, 2010.
ORSG - Massachusetts Drinking Water Guideline - MassDEP, 2010.
J - Value is estimated
mg/L - milligrams per liter

Prepared By: kask 11/09/10
Checked By: BJR 11/12/10

[1]Data were collected in August 2010. Shading indicates a concentration greater than the standard/guideline for that parameter.
[2]Federal Maximum Contaminant Level for benzo(a)pyrene used for PAHs.

Massachusetts Department of Environmental Protection (MassDEP), 2010. 2010 Standards and Guidelines for Contaminants in Massachusetts Drinking Water.

USEPA, 2009. 2009 Edition of the Drinking Water Standards and Health Advisories, EPA 822-R-09-011.

REDACTED

DATA VALIDATION SUMMARY

MACTEC

Engineering and Consulting, Inc.
511 Congress Street
P.O. Box 7050
Portland, Maine 04112-7050
Telephone: 207/775-5401
Fax: 207/772-4762
Home Page: www.mactec.com

To: Steve Morrow
From: Chris Ricardi
Date: December 3, 2010
Subject: Olin Chemical Superfund Site – July and August 2010 Residential Well Samples

Data Validation Summary
Test America Data Sets 360-29031, 360-29118, 360-29529, 360-29554, 360-29578, and 360-29778
Lancaster Laboratory Data Sets OLN32, OLN34, and OLN35

1.0 INTRODUCTION

This sample set contains results for residential well samples collected during July and August 2010. Samples were analyzed by Test America Laboratories (TAL) at locations in Westfield, Massachusetts, Tallahassee, Florida (Method 8315), and West Sacramento, California (Method mod 521), and hydrazines by Lancaster Laboratories in Lancaster, Pennsylvania. Samples were analyzed for the following parameters:

- N-nitrosodimethylamine (NDMA) by USEPA modified Method 521
- volatile organic compounds (VOCs) by USEPA Method 8260B
- semivolatile organic compounds (SVOCs) by USEPA Method 8270C
- formaldehyde/acetaldehyde by Method 8315A
- hydrazines by modified Method 8315A (LC/MS/MS)
- metals (calcium, chromium, and sodium) by USEPA Method 6010B
- anions (chloride, sulfate, nitrate, and nitrite) by USEPA Method 300.0
- nitrogen as Ammonia by LACHAT 107-06-1B
- phthalic acid/phthalic anhydride by Method LC65

Samples included in this review are summarized on Table 1. Samples collected from the [redacted] residential well in July and August ([redacted]) are included in a separate data validation report. With the exception of the items below, results are interpreted to be usable as reported by the laboratory. A complete summary of final sample results is included in Table 2. A summary of validation qualification actions is presented in Table 3. A summary of TICs detected in VOC and SVOC samples is presented on Table 4.

2.0 NDMA

NDMA analysis was completed using a modified USEPA Method 521 procedure which provides very low detection limits at an analytical reporting limit of 2 ng/L. NDMA samples are collected in amber-glass bottles and chilled prior to analysis.

Quality control (QC) evaluations were based on project specific method performance objectives described in the Final Project Operations Plan Volume III-B Quality Assurance Project Plan (QAPP) [MACTEC, 2009], the TAL SOP WS-MS-0012 for NDMA analysis, and professional judgment of the project chemist. Analytical packages were reviewed using data quality evaluation checklists that were developed specifically for the Olin Chemical Superfund Site. Validation included a full review of all documentation

and data associated with sample collection, shipment, and analysis. The following items are included in the NDMA validation:

* data package cover letter and narrative
  sample collection/chain of custody and holding times
* QC blanks
* instrument calibration
* laboratory control sample (LCS)
* internal standard recovery
* mass chromatogram evaluation
* raw data review and calculation checks (10 percent)
* detection limit review
* electronic data verification

* Validation checks met project and method goals

2.1 Validation Observations and Actions

Technical Holding Times

SDG 360-29118

Due to a laboratory spiking error in the initial analysis, sample [redacted] was re-extracted eight days beyond technical hold time. The results from the re-extraction and reanalyses were non-detect and the reporting limits were qualified estimated (UJ).

3.0 VOLATILES

A Tier II/Tier III validation was completed for the VOC samples based on criteria identified in Method 8260B and procedures described in USEPA data validation guidelines (USEPA, 1996). The following information was reviewed during data validation:

* Data completeness and COC records
* Sample Collection, Preservation, and Technical Holding Times
* GC/MS Instrument Performance Check (Tuning)
  Initial Calibration
  Continuing Calibration Results
* QC Blanks
  Laboratory Control Sample Results
* Surrogate Recoveries
  Internal Standard Area and Retention Time Results
* Target Compound Identification
* Tentatively Identified Compound (TIC) Reporting
* Calculation and QC Report Verification (10 percent Tier III)
* Electronic Database Review

* Indicates that all criteria were met for this quality control parameter.

3.1 Validation Observations and Actions

Initial Calibration

SDG 360-29778

The initial calibration (analyzed on 08/23/10) associated with samples in SDG 360-29778 had an average response factor for 1,4-dioxane (0.03) below the Region I limit of 0.05. However, the relative response factors (RRF) were greater than the EPA Contract Lab Program requirement of 0.005, and percent RSDs were less than 30 and within Region I validation guideline control limits indicating good linearity across the calibration range. There were no detections of 1,4-dioxane in the associated sample. Based on professional judgment results were not qualified as rejected and results were qualified estimated (UJ).

Continuing Calibration

SDG 360-29778

The percent difference (%D) of 2,2-dichloropropane (31) and 1,4-dioxane (64) in the continuing calibration associated with sample [redacted] were above the control limit of 25. 1,4-Dioxane was qualified as estimated during the review of the initial calibration. 2,2-Dichloropropane was not detected and was qualified estimated (UJ) at the reporting limit.

Laboratory Control Samples (LCS)

SDG 360-29529, 360-29578

The LCS percent recovery for 2,4,4-trimethyl-1-pentene (133) and acetone (69) were outside of the QC limits. Sample results for 2,4,4-trimethyl-1-pentene were non-detect and require no further action. Sample results for acetone were non-detect and the reporting limits were qualified estimated (UJ) and are potentially biased low.

SDG 360-29554

The percent recovery of acetone (69) was below the lower control limit in the LCS associated with sample OC-M27L14C. Acetone was not detected and the reporting limit was qualified estimated (UJ) in sample OC-M27L14C.

Internal Standard

SDG 360-29529

A low response of internal standard 1,2-dichloroethene-d4 (48%) was reported for sample [redacted]. 1,4-Dioxane was the only compound associated with this internal standard. 1,4-Dioxane was not detected in the sample, and the reporting limit was qualified estimated (UJ).

4.0 SEMIVOLATILES

A Tier II/Tier III validation was completed for the SVOC samples based on criteria identified in Method 8270C and procedures described in USEPA data validation guidelines (USEPA, 1996). The following information was reviewed during data validation:

* Data completeness and COC records
  Sample Collection, Preservation, and Technical Holding Times
* GC/MS Instrument Performance Check (Tuning)
  Initial Calibration
  Continuing Calibration Results
  QC Blanks
  Laboratory Control Sample Results
  Surrogate Recoveries
* Internal Standard Area and Retention Time Results
* Target Compound Identification
  Tentatively Identified Compound (TIC) Reporting
* Calculation and QC Report Verification (10 percent)
* Electronic Database Review

* Indicates that all criteria were met for this quality control parameter.

4.1 Validation Observations and Actions

Technical Holding Times

SDGs 360-29118

Due to a grossly failed acid fraction surrogate, the laboratory re-extracted sample [redacted] six days beyond technical hold time. Results for the reextraction of sample [redacted] were qualified estimated (J/UJ).

Initial Calibration

SDGs 360-29554, 360-29578, and 360-29778

The laboratory used one calibration standard at the mid-point of the calibration for benzoic acid. The RRF for benzoic acid (0.0386) was less than the QC limit of 0.05. There is no percent relative standard deviation (RSD) data for benzoic acid. Associated benzoic acid sample results were non-detect and were qualified rejected (R).

Continuing Calibration Results

SDG 360-29031

The continuing calibration percent difference for benzoic acid (-67), butyl benzyl phthalate (35), and 4-chloroaniline (-30.2) exceeded the QC limit of 25. The result for benzoic acid, butyl benzyl phthalate,

and 4-chloroaniline in sample OC-M27L14C were non-detect and the reporting limits were qualified estimated (UJ).

SDG 360-29118

The continuing calibration percent difference for 4-chloroaniline (-29.4) exceeded the QC limit of 25. The associated sample result for 4-chloroaniline was non-detect and the reporting limits was qualified estimated (UJ).

SDG 360-29529-1

The continuing calibration percent difference for aniline (-50.7), 3&4 methylphenol (31.7), 2,4-dimethylphenol (48.5), and benzoic acid (26) exceeded the QC limit of 25. The benzoic acid RRF (0.0487) was less than the QC limit of 0.05. Results for benzoic acid were qualified previously under the initial calibration criteria. The associated sample results for aniline, 3&4 methylphenol, and 2,4-dimethylphenol were non-detect and the reporting limits were qualified estimated (UJ).

SDG 360-29554

Benzoic acid was not reported by the laboratory in the continuing calibration analyzed on August 12, 2010. Benzoic acid was qualified (R) rejected previously under initial calibration criteria.

SDG 360-29578

The percent difference for benzoic acid (-40) exceeded the QC limit of 25. The RRF for benzoic acid (0.0232) was less than the QC limit of 0.05. The sample result benzoic acid was qualified as rejected (R) previously under initial calibration criteria.

SDG 360-29778

The percent difference (39) and RRF (0.02) were below the control limits for benzoic acid in the continuing calibration analyzed on August 11, 2010. Benzoic acid was qualified (R) rejected previously under initial calibration criteria.

<u>QC Blanks</u>

SDG 360-29031

The target compounds di-n-butyl phthalate (1.99 µg/L), indeno[1,2,3-cd]pyrene (0.0998 µg/L), and dibenz[a,h]anthracene (0.0755µg/L) were detected in the laboratory method blank. Results for indeno[1,2,3-cd]pyrene and dibenz[a,h]anthracene in sample OC-M27L14C were non-detect. The result for di-n-butyl phthalate in sample OC-M27L14Cwas less than the action level for di-n-butyl phthalate and was qualified non-detect (U) at the reporting limit.

Several TICs were also reported at low concentrations in the method blank, retention times ranged from 3.27 minutes to 7.91 minutes. These compounds were also reported in samples, and results were rejected as lab contamination and removed from the final data set.

SDG 360-29118

The target compound di-n-butyl phthalate (0.907 µg/L) was detected in the laboratory method blank. The result for di-n-butyl phthalate in sample [redacted] was less than the action level for di-n-butyl phthalate and was qualified non-detect (U) at the reporting limit.

Several TICs were also reported at low concentrations in the method blank, retention times ranged from 8.3 minutes to 12.67 minutes. These compounds were also reported in samples, and results were rejected as lab contamination and removed from the final data set.

SDG 360-29529

The target compounds di-n-butyl phthalate (1.88 µg/L) and bis (2-ethylhexyl) phthalate (0.814 µg/L) were detected in the laboratory method blank. The results for di-n-butyl phthalate and bis (2-ethylhexyl) phthalate in samples [redacted], [redacted], [redacted], [redacted], and [redacted] were less than the action levels and final results were qualified non-detect (U).

Siloxane TICs were reported at low concentrations in the samples. Siloxanes are considered common laboratory contaminants, and results were rejected as lab contamination and removed from the final data set.

SDG 360-29554

The target compounds di-n-butyl phthalate (2.73 µg/L), phenanthrene (0.10 µg/L), chrysene (0.19 µg/L), and bis (2-ethylhexyl) phthalate (2.99 µg/L) were detected in the laboratory method blank. Results for phenanthrene and chrysene in sample OC-M27L14C were non-detect. The results for di-n-butyl phthalate and bis (2-ethylhexyl) phthalate in sample OC-M27L14C were less than the action levels and final results were qualified non-detect (U).

Several TICs (Unknowns) were reported at low concentrations (< 2 µg/L) in the method blank with retention times ranging from 7.02 minutes to 11.66 minutes. A sub-set of these compounds were also reported in OC-M27L14C, and results were rejected as lab contamination and removed from the final data set.

SDG 360-29578

The target compound di-n-butyl phthalate (1.09 µg/L) was detected in the laboratory method blank. The result for di-n-butyl phthalate in sample [redacted] was less than the action level for di-n-butyl phthalate and was qualified non-detect (U) at the reporting limit.

SDG 360-29778

Di-n-butyl phthalate was detected at 2.73 µg/L in the method blank associated with sample [redacted]. The low level detection of di-n-butyl phthalate (2.3J µg/L) in [redacted] was qualified not detected at the reporting (4.5U µg/L).

Siloxane TICs were reported at low concentrations in the samples. Siloxanes are considered common laboratory contaminants, and results were rejected as lab contamination and removed from the final data set.

Laboratory Control Samples (LCS)

SDG 360-29031

LCS percent recoveries below the project QC limits were reported for phenol (13 and 15), benzoic acid (0 and 0), aniline (23 and 25), 4-chloroaniline (39 and 39), hexachlorocyclopentadiene (34 and 37), and fluorene (18 and 15) were less than the lower QC limits. The result for phenol, aniline, 4-chloroaniline, hexachlorocyclopentadiene, and fluorene in sample OC-M27L14C were non-detect and the reporting limits were qualified estimated (UJ) and are potentially biased low. The result for benzoic acid in sample OC-M27L14C was non-detect. Based upon professional judgment, the reporting limit for benzoic acid was qualified rejected (R).

SDG 360-29118

LCS percent recoveries below the project QC limits were reported for phenol (18 and 16), benzoic acid (27 and 22), aniline (33 and 30), and 4-nitrophenol (24 and 23) were less than the lower QC limits. The result for phenol, aniline, and 4-nitrophenol in sample [redacted] were non-detect and the reporting limits were qualified estimated (UJ) and are potentially biased low. The laboratory did not add caprolactum to the LCS mix. Percent recovery data is not available for caprolactum. The result for caprolactum was non-detect and the reporting limit was qualified estimated (UJ).

SDG 360-29529-1

The LCS and/or LCSD percent recoveries of phenol (21 and 26), benzoic acid (10 and 25), aniline (24 and 27), and 4-nirophenol (29) were less of the QC limits. The relative percent difference (RPD) between the LCS and LCSD percent recoveries exceeded the RPD limit for 41 of the 65 reported analytes. Associated sample results or reporting limits were qualified estimated (J/UJ).

SDG 360-29554-1

The LCS and/or LCSD percent recoveries of phenol (28), aniline (32, 35), and caprolactum (29, 29) were outside of the QC limits. The relative percent difference (RPD) between the LCS and LCSD percent recoveries exceeded the RPD limit for benzoic acid (28). The result for benzoic acid was qualified rejected (R) during the calibration review. The results for phenol, aniline, and caprolactum were qualified estimated (J/UJ) in sample OC-M27L14C.

SDG 360-29578

LCS percent recoveries below the project QC limits were reported for phenol (23 and 246), aniline (23 and 29), and 4-nitorphenol (28) were less than the lower QC limits. The result for phenol, aniline, and 4-chloroaniline in sample [redacted] were non-detect and the reporting limits were qualified estimated (UJ) and are potentially biased low.

SDG 360-29778

The LCS and LCSD percent recoveries of phenol (26,24), aniline (27,24), and caprolactum (15,19) were outside of the QC limits. The relative percent difference (RPD) between the LCS and LCSD percent recoveries exceeded the RPD limit for caprolactum (26). The results for phenol, aniline, and caprolactum were qualified estimated (UJ) in sample [redacted].

Surrogate Recoveries

SDG 360-29031

Surrogate percent recoveries below the project QC limits were reported for 2-flurophenol (18) and phenol-d5 (11) in sample OC-M27L14C. Acid fraction compounds in sample OC-M27L14C were non-detect and the reporting limits were qualified estimated (UJ).

5.0 FORMALDEHYDE/ACETALDEHYDE

Method 8315A packages were reviewed using criteria identified in the Final QAPP (MACTEC, 2009) and general procedures described in USEPA data validation guidelines (USEPA, 1996). The following information was reviewed during data validation:

* Data completeness and COC records
* Sample Collection, Preservation, and Technical Holding Times
* Initial Calibration Verification
* Continuing Calibration Verification
  QC Blanks
* Laboratory Control Sample Results
* Matrix Spike Results
* Raw Data, Calculation and QC Report Verification (10 Percent)
* Electronic Database Review

* Indicates that all criteria were met for this quality control parameter.

5.1 Validation Observations and Actions

QC Blanks

SDG 360-29031

Formaldehyde (10.3 J µg/L) was reported in laboratory method blank at a low concentration less than the reporting limit of 30 µg/L. Similar results were reported in sample OC-M27L14C, and results were qualified as non-detect (U) at the reporting limit of 30 µg/L in the final data set.

6.0 HYDRAZINES

Analysis for hydrazines (hydrazine, monomethylhydrazine, and 1,1-dimethylhydrazine) was completed using a liquid chromatography dual mass spectrometry (LC/MS/MS) method developed by Lancaster Laboratories. Sample results were reviewed using criteria identified in the Final QAPP (MACTEC, 2009) and general procedures described in USEPA data validation guidelines (USEPA, 1996).

The following items are included in the validation:

* data package cover letter and narrative
  sample collection/chain of custody and holding times
* QC blanks
* instrument calibration
* laboratory control sample (LCS)
  matrix spike/matrix spike duplicate (MS/MSD)
* mass chromatogram evaluations
* raw data review and calculation checks (10 percent)
* detection limit review
* electronic data verification

* Validation checks met project and method goals

6.1 Validation Observations and Actions

Technical Holding Times

SDG OLN32

Due to grossly low LCS and MS/MSD percent recoveries in the initial analysis, sample OC-M27L14C was re-extracted one day beyond technical hold time. The re-extraction and reanalysis QC met the limits. The results for sample OC-M27L14C were non-detect and the reporting limits were qualified estimated (UJ).

Matrix Spike

SDG OLN35

MS and/or MSD percent recoveries for monomethyl hydrazine (44 and 43) and dimethyl hydrazine (66) were below the project QC limits. The MS/MSD RPD for dimethyl hydrazine (31.7) exceeded the QC limit of 35. The result for monomethyl hydrazine and dimethyl hydrazine in sample [redacted] were non-detect and the reporting limits were qualified estimated (UJ).

7.0 METALS

Samples were analyzed for total calcium, chromium, and sodium. A Tier II validation was completed for the metals samples based on criteria identified in Method 6010B and procedures described in USEPA data validation guidelines (USEPA, 2008). The following information was reviewed during data validation:

* data package cover letter and narrative
* sample collection/chain of custody and holding times
* QC blanks
* instrument calibration
* laboratory control sample (LCS)
  matrix spike/matrix spike duplicate (MS/MSD)
* serial dilution
* Interference check samples
* raw data review and calculation checks
* detection limit review
* electronic data verification

* Validation checks met project and method goals

7.1 Validation Observations and Actions

Matrix Spike

SDG OLN35

MS percent recovery for calcium (131) exceeded the QC limit of 125. The result for calcium in sample [redacted] was qualified estimated (J) and is potentially biased high.

8.0 WET CHEMISTRY (AMMONIA, NITRATE, NITRITE, CHLORIDE AND SULFATE)

Analysis for ammonia, nitrate, nitrite, chloride and sulfate was completed by TestAmerica in Westfield, Massachusetts. Sample results were reviewed using criteria identified in the Olin RI/FS QAPP (MACTEC, 2009). An Olin Level 1 data review was completed on the wet chemistry parameters.

The following items are included in the validation:

* Data completeness and COC records
  Sample Collection, Preservation, and Technical Holding Times
* QC Blanks
* Laboratory Control Sample Results
  Matrix Spikes
* Electronic Database Review
  Detection/Reporting Limits

* Indicates that all criteria were met for this quality control parameter.

8.1 Validation Observations and Actions

Hold Times

SDG 360-29778

Sample [redacted] was collected on August 23, 2010 and analyzed on August 26, 2010 over 24 hours past the 48 hour hold time for Nitrate. Nitrate was qualified estimated (J) in sample [redacted].

Matrix Spikes

SDG 360-29554

A matrix spike and matrix spike duplicate was performed on sample OC-M27L14C. The percent recoveries were within control limits (75-125%) for sulfate and chloride; however, the RPD between the percent recoveries (22) was above the control limit of 20. Sulfate and chloride were qualified estimated (J) in sample OC-M27L14C.

Detection/Reporting Limits

SDG 360-29554

The following samples required a dilution prior to analysis due to elevated concentrations of chloride or sulfate. Detection limits for nitrite and nitrate are elevated.

SDG	Field Sample ID	Analyte	Dilution Factor
360-29554	OC-M27L14C	Nitrite as N	10

9.0 PHTHALIC ACID/PHTHALIC ANHYDRIDE

Analysis for phthalic acid/phthalic anhydride was completed using a high pressure liquid chromatography (HPLC) method developed by TestAmerica Tallahassee Laboratory. Sample results were reviewed using criteria identified in the Final QAPP (MACTEC, 2009) and general procedures described in USEPA data validation guidelines (USEPA, 1996).

The following items are included in the validation:

* data package cover letter and narrative
  sample collection/chain of custody and holding times
* QC blanks
* instrument calibration
* laboratory control sample (LCS)
* matrix spike/matrix spike duplicate (MS/MSD)
* mass chromatogram evaluations
* raw data review and calculation checks
* detection limit review
* electronic data verification

* Validation checks met project and method goals

9.1 Validation Observations and Actions

Technical Holding Times

SDG 360-29031

Due to grossly low LCS and MS/MSD percent recoveries in the initial analysis, sample OC-M27L14C was re-extracted seven days beyond technical hold time. The laboratory reported both sets of results. The re-extraction and reanalysis QC met the limits. The results from the re-extraction and reanalysis of sample OC-M27L14C were non-detect and the reporting limits were qualified estimated (UJ).

Except for the validation actions noted above, the results are interpreted to be usable as reported by TestAmerica.

Chris Ricardi

12/3/2010

Chris Ricardi, NRCC-EAC
Senior Chemist

Date

Michael Murphy

12/3/10

Michael Murphy
Project Principal

Date

MACTEC

REDACTED

References:

MACTEC, 2009. "Final Project Operation Plan Volume IIB Quality Assurance Project Plan"; Olin Chemical Superfund Site; 51 Eames Street; Wilmington, Massachusetts; August 2009.

U.S. Environmental Protection Agency (USEPA), 1996. "Region 1 EPA-NE Data Validation Guidelines For Evaluating Environmental Analyses"; Quality Assurance Unit Staff; Office of Environmental Measurement and Evaluation; December 1996

Table 1
Sample Summary
Data Validation Report
July/August 2010 Residential Sampling
Olin Chemical Superfund Site
Wilmington, Massachusetts

					SW8260B	SW8270C	mod 521	SW6010	E300	LAC-107-06-1-B (E350.1)	LACH_107_04_1_C	A4500_NO2_B	LC65	SW8315	SW8315A
Test America Sample ID	Lancaster Lab Sample ID	Location	Sample ID	Sample Date	VOCs	SVOCs	NDMA	Metals	Anions	Ammonia	Nitrate as N	Nitrite as N	Phthalic Anhydride	Formaldehyde & Acetaldehyde	Hydrazine
360-29031-1	6023530	M-27/L-14C	OC-M27L14C	01-Jul-10	77	72	2	6	4	1			2	2	3
360-29554-1	6055361	M-27/L14C	OC-M27L14C	06-Aug-10	77	72	2	3	4	1				2	3

Notes:
Number listed under method indicates number of target analytes reported.

Prepared by/Date: KJC 09/15/10
Checked by/Date: WDC 10/12/10

REDACTED

Table 2
Final Results Summary
July/August 2010 Residential Groundwater
Olin Chemical Superfund Site
Wilmington, Massachusetts

		Location	[redacted]
		COC Sample	
		Date Sampled	
		Sample Type	
		Report Number	
Method	Parameter Name	Units	
SW8260B	1,1,1,2-Tetrachloroethane	ug/l	
SW8260B	1,1,1-Trichloroethane	ug/l	
SW8260B	1,1,2,2-Tetrachloroethane	ug/l	
SW8260B	1,1,2-Trichloro-1,2,2-Trifluoroethane	ug/l	
SW8260B	1,1,2-Trichloroethane	ug/l	
SW8260B	1,1-Dichloroethane	ug/l	
SW8260B	1,1-Dichloroethene	ug/l	
SW8260B	1,1-Dichloropropene	ug/l	
SW8260B	1,2,3-Trichlorobenzene	ug/l	
SW8260B	1,2,3-Trichloropropane	ug/l	
SW8260B	1,2,4-Trichlorobenzene	ug/l	
SW8260B	1,2,4-Trimethylbenzene	ug/l	
SW8260B	1,2-Dibromo-3-chloropropane	ug/l	
SW8260B	1,2-Dibromoethane	ug/l	
SW8260B	1,2-Dichlorobenzene	ug/l	
SW8260B	1,2-Dichloroethane	ug/l	
SW8260B	1,2-Dichloropropane	ug/l	
SW8260B	1,3,5-Trimethylbenzene	ug/l	
SW8260B	1,3-Dichlorobenzene	ug/l	
SW8260B	1,3-Dichloropropane	ug/l	
SW8260B	1,4-Dichlorobenzene	ug/l	
SW8260B	1,4-Dioxane	ug/l	
SW8260B	2,2-Dichloropropane	ug/l	
SW8260B	2,4,4-Trimethyl-1-pentene	ug/l	
SW8260B	2,4,4-Trimethyl-2-Pentene	ug/l	
SW8260B	2-Butanone	ug/l	
SW8260B	2-Chlorotoluene	ug/l	
SW8260B	2-Hexanone	ug/l	
SW8260B	4-Chlorotoluene	ug/l	
SW8260B	4-iso-Propyltoluene	ug/l	
SW8260B	4-Methyl-2-pentanone	ug/l	
SW8260B	Acetic acid, methyl ester	ug/l	
SW8260B	Acetone	ug/l	
SW8260B	Benzene	ug/l	
SW8260B	Bromobenzene	ug/l	
SW8260B	Bromochloromethane	ug/l	
SW8260B	Bromodichloromethane	ug/l	
SW8260B	Bromoform	ug/l	
SW8260B	Bromomethane	ug/l	
SW8260B	Butane, 2-methoxy-2-methyl-	ug/l	
SW8260B	Carbon disulfide	ug/l	
SW8260B	Carbon tetrachloride	ug/l	
SW8260B	Chlorobenzene	ug/l	
SW8260B	Chlorodibromomethane	ug/l	
SW8260B	Chloroethane	ug/l	

REDACTED

Table 2
Final Results Summary
July/August 2010 Residential Groundwater
Olin Chemical Superfund Site
Wilmington, Massachusetts

		Location	[redacted]
		COC Sample	
		Date Sampled	
		Sample Type	
		Report Number	
Method	Parameter Name	Units	
SW8260B	Chloroform	ug/l	
SW8260B	Chloromethane	ug/l	
SW8260B	Cis-1,2-Dichloroethene	ug/l	
SW8260B	cis-1,3-Dichloropropene	ug/l	
SW8260B	Cyclohexane	ug/l	
SW8260B	Dibromomethane	ug/l	
SW8260B	Dichlorodifluoromethane	ug/l	
SW8260B	Diethyl ether	ug/l	
SW8260B	Diisopropylether	ug/l	
SW8260B	Ethyl benzene	ug/l	
SW8260B	Ethyl-t-Butyl Ether	ug/l	
SW8260B	Hexachlorobutadiene	ug/l	
SW8260B	Isopropylbenzene	ug/l	
SW8260B	Methyl cyclohexane	ug/l	
SW8260B	Methyl Tertbutyl Ether	ug/l	
SW8260B	Methylene chloride	ug/l	
SW8260B	n-Butylbenzene	ug/l	
SW8260B	Naphthalene	ug/l	
SW8260B	Propylbenzene	ug/l	
SW8260B	sec-Butylbenzene	ug/l	
SW8260B	Styrene	ug/l	
SW8260B	tert-Butylbenzene	ug/l	
SW8260B	Tetrachloroethene	ug/l	
SW8260B	Tetrahydrofuran	ug/l	
SW8260B	Toluene	ug/l	
SW8260B	trans-1,2-Dichloroethene	ug/l	
SW8260B	trans-1,3-Dichloropropene	ug/l	
SW8260B	Trichloroethene	ug/l	
SW8260B	Trichlorofluoromethane	ug/l	
SW8260B	Vinyl chloride	ug/l	
SW8260B	Xylene, m/p	ug/l	
SW8260B	Xylene, o	ug/l	
SW8270C	1,2,4,5-Tetrachlorobenzene	ug/l	
SW8270C	1-Methylnaphthalene	ug/l	
SW8270C	2,3,4,6-Tetrachlorophenol	ug/l	
SW8270C	2,4,5-Trichlorophenol	ug/l	
SW8270C	2,4,6-Trichlorophenol	ug/l	
SW8270C	2,4-Dichlorophenol	ug/l	
SW8270C	2,4-Dimethylphenol	ug/l	
SW8270C	2,4-Dinitrophenol	ug/l	
SW8270C	2,4-Dinitrotoluene	ug/l	
SW8270C	2,6-Dinitrotoluene	ug/l	
SW8270C	2-Chloronaphthalene	ug/l	
SW8270C	2-Chlorophenol	ug/l	
SW8270C	2-Methylnaphthalene	ug/l	

REDACTED

Table 2
Final Results Summary
July/August 2010 Residential Groundwater
Olin Chemical Superfund Site
Wilmington, Massachusetts

		Location	[redacted]
		COC Sample	
		Date Sampled	
		Sample Type	
		Report Number	
Method	Parameter Name	Units	
SW8270C	2-Methylphenol	ug/l	
SW8270C	2-Nitroaniline	ug/l	
SW8270C	2-Nitrophenol	ug/l	
SW8270C	3 & 4 Methylphenol	ug/l	
SW8270C	3,3'-Dichlorobenzidine	ug/l	
SW8270C	3-Nitroaniline	ug/l	
SW8270C	4,6-Dinitro-2-methylphenol	ug/l	
SW8270C	4-Bromophenyl phenyl ether	ug/l	
SW8270C	4-Chloro-3-methylphenol	ug/l	
SW8270C	4-Chloroaniline	ug/l	
SW8270C	4-Chlorophenyl phenyl ether	ug/l	
SW8270C	4-Nitroaniline	ug/l	
SW8270C	4-Nitrophenol	ug/l	
SW8270C	Acenaphthene	ug/l	
SW8270C	Acenaphthylene	ug/l	
SW8270C	Acetophenone	ug/l	
SW8270C	Aniline	ug/l	
SW8270C	Anthracene	ug/l	
SW8270C	Atrazine	ug/l	
SW8270C	Azobenzene	ug/l	
SW8270C	Benzaldehyde	ug/l	
SW8270C	Benzo(a)anthracene	ug/l	
SW8270C	Benzo(a)pyrene	ug/l	
SW8270C	Benzo(b)fluoranthene	ug/l	
SW8270C	Benzo(ghi)perylene	ug/l	
SW8270C	Benzo(k)fluoranthene	ug/l	
SW8270C	Benzoic Acid	ug/l	
SW8270C	Benzyl alcohol	ug/l	
SW8270C	Biphenyl	ug/l	
SW8270C	Bis(2-Chloroethoxy)methane	ug/l	
SW8270C	Bis(2-Chloroethyl)ether	ug/l	
SW8270C	Bis(2-Chloroisopropyl)ether	ug/l	
SW8270C	Bis(2-Ethylhexyl)phthalate	ug/l	
SW8270C	Butylbenzylphthalate	ug/l	
SW8270C	Caprolactum	ug/l	
SW8270C	Carbazole	ug/l	
SW8270C	Chrysene	ug/l	
SW8270C	Di-n-butylphthalate	ug/l	
SW8270C	Di-n-octylphthalate	ug/l	
SW8270C	Dibenz(a,h)anthracene	ug/l	
SW8270C	Dibenzofuran	ug/l	
SW8270C	Diethylphthalate	ug/l	
SW8270C	Dimethylphthalate	ug/l	
SW8270C	Diphenyl ether	ug/l	
SW8270C	Diphenylmethanone	ug/l	

REDACTED

Table 2
Final Results Summary
July/August 2010 Residential Groundwater
Olin Chemical Superfund Site
Wilmington, Massachusetts

		Location	[redacted]
		COC Sample	
		Date Sampled	
		Sample Type	
		Report Number	
Method	Parameter Name	Units	
SW8270C	Fluoranthene	ug/l	
SW8270C	Fluorene	ug/l	
SW8270C	Hexachlorobenzene	ug/l	
SW8270C	Hexachlorocyclopentadiene	ug/l	
SW8270C	Hexachloroethane	ug/l	
SW8270C	Indeno(1,2,3-cd)pyrene	ug/l	
SW8270C	Isophorone	ug/l	
SW8270C	N-Nitrosodi-n-propylamine	ug/l	
SW8270C	N-Nitrosodiphenylamine	ug/l	
SW8270C	Nitrobenzene	ug/l	
SW8270C	Pentachlorophenol	ug/l	
SW8270C	Phenanthrene	ug/l	
SW8270C	Phenol	ug/l	
SW8270C	Pyrene	ug/l	
SW8315	Acetaldehyde	ug/l	
SW8315	Formaldehyde	ug/l	
SW6010	Calcium	ug/l	
SW6010	Chromium	ug/l	
SW6010	Sodium	ug/l	
E300	Chloride	mg/l	
E300	Nitrate as N	mg/l	
E300	Nitrite as N	mg/l	
LACH_107_06_1_B	Nitrogen, as Ammonia	mg/l	
E300	Sulfate	mg/l	
WS-MS-0012	N-Nitrosodi-n-propylamine	ng/l	
WS-MS-0012	N-Nitrosodimethylamine	ng/l	
LC65	Phthalic Acid/Phthalic anhydride	ug/l	
SW8315A MOD	Hydrazine	ug/l	
SW8315A MOD	Monomethylhydrazine (MMH)	ug/l	
SW8315A MOD	UDMH	ug/l	

Notes:
N = normal
T = total (unfiltered)
FS = field sample
U = not detected, value is the detection limit
J = value is estimated
R = value is rejected and not usable
ug/l = micrograms per liter
mg/l = milligrams per liter

REDACTED

Table 2
Final Results Summary
July/August 2010 Residential Groundwater
Olin Chemical Superfund Site
Wilmington, Massachusetts

		Location	[redacted]
		COC Sample	
		Date Sampled	
		Sample Type	
		Report Number	
Method	Parameter Name	Units	
SW8260B	1,1,1,2-Tetrachloroethane	ug/l	
SW8260B	1,1,1-Trichloroethane	ug/l	
SW8260B	1,1,2,2-Tetrachloroethane	ug/l	
SW8260B	1,1,2-Trichloro-1,2,2-Trifluoroethane	ug/l	
SW8260B	1,1,2-Trichloroethane	ug/l	
SW8260B	1,1-Dichloroethane	ug/l	
SW8260B	1,1-Dichloroethene	ug/l	
SW8260B	1,1-Dichloropropene	ug/l	
SW8260B	1,2,3-Trichlorobenzene	ug/l	
SW8260B	1,2,3-Trichloropropane	ug/l	
SW8260B	1,2,4-Trichlorobenzene	ug/l	
SW8260B	1,2,4-Trimethylbenzene	ug/l	
SW8260B	1,2-Dibromo-3-chloropropane	ug/l	
SW8260B	1,2-Dibromoethane	ug/l	
SW8260B	1,2-Dichlorobenzene	ug/l	
SW8260B	1,2-Dichloroethane	ug/l	
SW8260B	1,2-Dichloropropane	ug/l	
SW8260B	1,3,5-Trimethylbenzene	ug/l	
SW8260B	1,3-Dichlorobenzene	ug/l	
SW8260B	1,3-Dichloropropane	ug/l	
SW8260B	1,4-Dichlorobenzene	ug/l	
SW8260B	1,4-Dioxane	ug/l	
SW8260B	2,2-Dichloropropane	ug/l	
SW8260B	2,4,4-Trimethyl-1-pentene	ug/l	
SW8260B	2,4,4-Trimethyl-2-Pentene	ug/l	
SW8260B	2-Butanone	ug/l	
SW8260B	2-Chlorotoluene	ug/l	
SW8260B	2-Hexanone	ug/l	
SW8260B	4-Chlorotoluene	ug/l	
SW8260B	4-iso-Propyltoluene	ug/l	
SW8260B	4-Methyl-2-pentanone	ug/l	
SW8260B	Acetic acid, methyl ester	ug/l	
SW8260B	Acetone	ug/l	
SW8260B	Benzene	ug/l	
SW8260B	Bromobenzene	ug/l	
SW8260B	Bromochloromethane	ug/l	
SW8260B	Bromodichloromethane	ug/l	
SW8260B	Bromoform	ug/l	
SW8260B	Bromomethane	ug/l	
SW8260B	Butane, 2-methoxy-2-methyl-	ug/l	
SW8260B	Carbon disulfide	ug/l	
SW8260B	Carbon tetrachloride	ug/l	
SW8260B	Chlorobenzene	ug/l	
SW8260B	Chlorodibromomethane	ug/l	
SW8260B	Chloroethane	ug/l	

REDACTED

Table 2
Final Results Summary
July/August 2010 Residential Groundwater
Olin Chemical Superfund Site
Wilmington, Massachusetts

		Location	[redacted]
		COC Sample	
		Date Sampled	
		Sample Type	
		Report Number	
Method	Parameter Name	Units	
SW8260B	Chloroform	ug/l	
SW8260B	Chloromethane	ug/l	
SW8260B	Cis-1,2-Dichloroethene	ug/l	
SW8260B	cis-1,3-Dichloropropene	ug/l	
SW8260B	Cyclohexane	ug/l	
SW8260B	Dibromomethane	ug/l	
SW8260B	Dichlorodifluoromethane	ug/l	
SW8260B	Diethyl ether	ug/l	
SW8260B	Diisopropylether	ug/l	
SW8260B	Ethyl benzene	ug/l	
SW8260B	Ethyl-t-Butyl Ether	ug/l	
SW8260B	Hexachlorobutadiene	ug/l	
SW8260B	Isopropylbenzene	ug/l	
SW8260B	Methyl cyclohexane	ug/l	
SW8260B	Methyl Tertbutyl Ether	ug/l	
SW8260B	Methylene chloride	ug/l	
SW8260B	n-Butylbenzene	ug/l	
SW8260B	Naphthalene	ug/l	
SW8260B	Propylbenzene	ug/l	
SW8260B	sec-Butylbenzene	ug/l	
SW8260B	Styrene	ug/l	
SW8260B	tert-Butylbenzene	ug/l	
SW8260B	Tetrachloroethene	ug/l	
SW8260B	Tetrahydrofuran	ug/l	
SW8260B	Toluene	ug/l	
SW8260B	trans-1,2-Dichloroethene	ug/l	
SW8260B	trans-1,3-Dichloropropene	ug/l	
SW8260B	Trichloroethene	ug/l	
SW8260B	Trichlorofluoromethane	ug/l	
SW8260B	Vinyl chloride	ug/l	
SW8260B	Xylene, m/p	ug/l	
SW8260B	Xylene, o	ug/l	
SW8270C	1,2,4,5-Tetrachlorobenzene	ug/l	
SW8270C	1-Methylnaphthalene	ug/l	
SW8270C	2,3,4,6-Tetrachlorophenol	ug/l	
SW8270C	2,4,5-Trichlorophenol	ug/l	
SW8270C	2,4,6-Trichlorophenol	ug/l	
SW8270C	2,4-Dichlorophenol	ug/l	
SW8270C	2,4-Dimethylphenol	ug/l	
SW8270C	2,4-Dinitrophenol	ug/l	
SW8270C	2,4-Dinitrotoluene	ug/l	
SW8270C	2,6-Dinitrotoluene	ug/l	
SW8270C	2-Chloronaphthalene	ug/l	
SW8270C	2-Chlorophenol	ug/l	
SW8270C	2-Methylnaphthalene	ug/l	

REDACTED

Table 2
Final Results Summary
July/August 2010 Residential Groundwater
Olin Chemical Superfund Site
Wilmington, Massachusetts

		Location	[redacted]
		COC Sample	
		Date Sampled	
		Sample Type	
		Report Number	
Method	Parameter Name	Units	
SW8270C	2-Methylphenol	ug/l	
SW8270C	2-Nitroaniline	ug/l	
SW8270C	2-Nitrophenol	ug/l	
SW8270C	3 & 4 Methylphenol	ug/l	
SW8270C	3,3`-Dichlorobenzidine	ug/l	
SW8270C	3-Nitroaniline	ug/l	
SW8270C	4,6-Dinitro-2-methylphenol	ug/l	
SW8270C	4-Bromophenyl phenyl ether	ug/l	
SW8270C	4-Chloro-3-methylphenol	ug/l	
SW8270C	4-Chloroaniline	ug/l	
SW8270C	4-Chlorophenyl phenyl ether	ug/l	
SW8270C	4-Nitroaniline	ug/l	
SW8270C	4-Nitrophenol	ug/l	
SW8270C	Acenaphthene	ug/l	
SW8270C	Acenaphthylene	ug/l	
SW8270C	Acetophenone	ug/l	
SW8270C	Aniline	ug/l	
SW8270C	Anthracene	ug/l	
SW8270C	Atrazine	ug/l	
SW8270C	Azobenzene	ug/l	
SW8270C	Benzaldehyde	ug/l	
SW8270C	Benzo(a)anthracene	ug/l	
SW8270C	Benzo(a)pyrene	ug/l	
SW8270C	Benzo(b)fluoranthene	ug/l	
SW8270C	Benzo(ghi)perylene	ug/l	
SW8270C	Benzo(k)fluoranthene	ug/l	
SW8270C	Benzoic Acid	ug/l	
SW8270C	Benzyl alcohol	ug/l	
SW8270C	Biphenyl	ug/l	
SW8270C	Bis(2-Chloroethoxy)methane	ug/l	
SW8270C	Bis(2-Chloroethyl)ether	ug/l	
SW8270C	Bis(2-Chloroisopropyl)ether	ug/l	
SW8270C	Bis(2-Ethylhexyl)phthalate	ug/l	
SW8270C	Butylbenzylphthalate	ug/l	
SW8270C	Caprolactum	ug/l	
SW8270C	Carbazole	ug/l	
SW8270C	Chrysene	ug/l	
SW8270C	Di-n-butylphthalate	ug/l	
SW8270C	Di-n-octylphthalate	ug/l	
SW8270C	Dibenz(a,h)anthracene	ug/l	
SW8270C	Dibenzofuran	ug/l	
SW8270C	Diethylphthalate	ug/l	
SW8270C	Dimethylphthalate	ug/l	
SW8270C	Diphenyl ether	ug/l	
SW8270C	Diphenylmethanone	ug/l	

REDACTED

Table 2
Final Results Summary
July/August 2010 Residential Groundwater
Olin Chemical Superfund Site
Wilmington, Massachusetts

		Location	[redacted]
		COC Sample	
		Date Sampled	
		Sample Type	
		Report Number	
Method	Parameter Name	Units	
SW8270C	Fluoranthene	ug/l	
SW8270C	Fluorene	ug/l	
SW8270C	Hexachlorobenzene	ug/l	
SW8270C	Hexachlorocyclopentadiene	ug/l	
SW8270C	Hexachloroethane	ug/l	
SW8270C	Indeno(1,2,3-cd)pyrene	ug/l	
SW8270C	Isophorone	ug/l	
SW8270C	N-Nitrosodi-n-propylamine	ug/l	
SW8270C	N-Nitrosodiphenylamine	ug/l	
SW8270C	Nitrobenzene	ug/l	
SW8270C	Pentachlorophenol	ug/l	
SW8270C	Phenanthrene	ug/l	
SW8270C	Phenol	ug/l	
SW8270C	Pyrene	ug/l	
SW8315	Acetaldehyde	ug/l	
SW8315	Formaldehyde	ug/l	
SW6010	Calcium	ug/l	
SW6010	Chromium	ug/l	
SW6010	Sodium	ug/l	
E300	Chloride	mg/l	
E300	Nitrate as N	mg/l	
E300	Nitrite as N	mg/l	
LACH_107_06_1_B	Nitrogen, as Ammonia	mg/l	
E300	Sulfate	mg/l	
WS-MS-0012	N-Nitrosodi-n-propylamine	ng/l	
WS-MS-0012	N-Nitrosodimethylamine	ng/l	
LC65	Phthalic Acid/Phthalic anhydride	ug/l	
SW8315A MOD	Hydrazine	ug/l	
SW8315A MOD	Monomethylhydrazine (MMH)	ug/l	
SW8315A MOD	UDMH	ug/l	

Notes:
N = normal
T = total (unfiltered)
FS = field sample
U = not detected, value is the detection limit
J = value is estimated
R = value is rejected and not usable
ug/l = micrograms per liter
mg/l = milligrams per liter

REDACTED

Table 2
Final Results Summary
July/August 2010 Residential Groundwater
Olin Chemical Superfund Site
Wilmington, Massachusetts

		Location	[redacted]	M-27/L14C		M-27/L14C	
		COC Sample		OC-M27L14C		OC-M27L14C	
		Date Sampled		07/01/10		08/06/10	
		Sample Type		FS		FS	
		Report Number		360-29031-1		360-29554-1	
Method	Parameter Name	Units		Result	Qualifier	Result	Qualifier
SW8260B	1,1,1,2-Tetrachloroethane	ug/l		1	U	1	U
SW8260B	1,1,1-Trichloroethane	ug/l		1	U	1	U
SW8260B	1,1,2,2-Tetrachloroethane	ug/l		0.5	U	0.5	U
SW8260B	1,1,2-Trichloro-1,2,2-Trifluoroethane	ug/l		1	U	1	U
SW8260B	1,1,2-Trichloroethane	ug/l		1	U	1	U
SW8260B	1,1-Dichloroethane	ug/l		1	U	1	U
SW8260B	1,1-Dichloroethene	ug/l		1	U	1	U
SW8260B	1,1-Dichloropropene	ug/l		1	U	1	U
SW8260B	1,2,3-Trichlorobenzene	ug/l		1	U	1	U
SW8260B	1,2,3-Trichloropropane	ug/l		1	U	1	U
SW8260B	1,2,4-Trichlorobenzene	ug/l		1	U	1	U
SW8260B	1,2,4-Trimethylbenzene	ug/l		1	U	1	U
SW8260B	1,2-Dibromo-3-chloropropane	ug/l		5	U	5	U
SW8260B	1,2-Dibromoethane	ug/l		1	U	1	U
SW8260B	1,2-Dichlorobenzene	ug/l		1	U	1	U
SW8260B	1,2-Dichloroethane	ug/l		1	U	1	U
SW8260B	1,2-Dichloropropane	ug/l		1	U	1	U
SW8260B	1,3,5-Trimethylbenzene	ug/l		1	U	1	U
SW8260B	1,3-Dichlorobenzene	ug/l		1	U	1	U
SW8260B	1,3-Dichloropropane	ug/l		1	U	1	U
SW8260B	1,4-Dichlorobenzene	ug/l		1	U	1	U
SW8260B	1,4-Dioxane	ug/l		50	U	50	U
SW8260B	2,2-Dichloropropane	ug/l		1	U	1	U
SW8260B	2,4,4-Trimethyl-1-pentene	ug/l		1	U	1	U
SW8260B	2,4,4-Trimethyl-2-Pentene	ug/l		1	U	1	U
SW8260B	2-Butanone	ug/l		10	U	10	U
SW8260B	2-Chlorotoluene	ug/l		1	U	1	U
SW8260B	2-Hexanone	ug/l		10	U	10	U
SW8260B	4-Chlorotoluene	ug/l		1	U	1	U
SW8260B	4-iso-Propyltoluene	ug/l		1	U	1	U
SW8260B	4-Methyl-2-pentanone	ug/l		10	U	10	U
SW8260B	Acetic acid, methyl ester	ug/l		20	U	20	U
SW8260B	Acetone	ug/l		50	U	50	UJ
SW8260B	Benzene	ug/l		1	U	1	U
SW8260B	Bromobenzene	ug/l		1	U	1	U
SW8260B	Bromochloromethane	ug/l		1	U	1	U
SW8260B	Bromodichloromethane	ug/l		1	U	1	U
SW8260B	Bromoform	ug/l		1	U	1	U
SW8260B	Bromomethane	ug/l		2	U	2	U
SW8260B	Butane, 2-methoxy-2-methyl-	ug/l		5	U	5	U
SW8260B	Carbon disulfide	ug/l		10	U	10	U
SW8260B	Carbon tetrachloride	ug/l		1	U	1	U
SW8260B	Chlorobenzene	ug/l		1	U	1	U
SW8260B	Chlorodibromomethane	ug/l		0.5	U	0.5	U
SW8260B	Chloroethane	ug/l		2	U	2	U

REDACTED

Table 2
Final Results Summary
July/August 2010 Residential Groundwater
Olin Chemical Superfund Site
Wilmington, Massachusetts

		Location	[redacted]	M-27/L14C		M-27/L14C	
		COC Sample		OC-M27L14C		OC-M27L14C	
		Date Sampled		07/01/10		08/06/10	
		Sample Type		FS		FS	
		Report Number		360-29031-1		360-29554-1	
Method	Parameter Name	Units		Result	Qualifier	Result	Qualifier
SW8260B	Chloroform	ug/l		1	U	1	U
SW8260B	Chloromethane	ug/l		2	U	2	U
SW8260B	Cis-1,2-Dichloroethene	ug/l		1	U	1	U
SW8260B	cis-1,3-Dichloropropene	ug/l		0.4	U	0.4	U
SW8260B	Cyclohexane	ug/l		10	U	10	U
SW8260B	Dibromomethane	ug/l		1	U	1	U
SW8260B	Dichlorodifluoromethane	ug/l		1	U	1	U
SW8260B	Diethyl ether	ug/l		10	U	10	U
SW8260B	Diisopropylether	ug/l		10	U	10	U
SW8260B	Ethyl benzene	ug/l		1	U	1	U
SW8260B	Ethyl-t-Butyl Ether	ug/l		5	U	5	U
SW8260B	Hexachlorobutadiene	ug/l		0.4	U	0.4	U
SW8260B	Isopropylbenzene	ug/l		1	U	1	U
SW8260B	Methyl cyclohexane	ug/l		10	U	10	U
SW8260B	Methyl Tertbutyl Ether	ug/l		1	U	1	U
SW8260B	Methylene chloride	ug/l		2	U	2	U
SW8260B	n-Butylbenzene	ug/l		1	U	1	U
SW8260B	Naphthalene	ug/l		5	U	5	U
SW8260B	Propylbenzene	ug/l		1	U	1	U
SW8260B	sec-Butylbenzene	ug/l		1	U	1	U
SW8260B	Styrene	ug/l		1	U	1	U
SW8260B	tert-Butylbenzene	ug/l		1	U	1	U
SW8260B	Tetrachloroethene	ug/l		1	U	1	U
SW8260B	Tetrahydrofuran	ug/l		10	U	10	U
SW8260B	Toluene	ug/l		1	U	1	U
SW8260B	trans-1,2-Dichloroethene	ug/l		1	U	1	U
SW8260B	trans-1,3-Dichloropropene	ug/l		0.4	U	0.4	U
SW8260B	Trichloroethene	ug/l		1	U	1	U
SW8260B	Trichlorofluoromethane	ug/l		1	U	1	U
SW8260B	Vinyl chloride	ug/l		0.5	U	0.5	U
SW8260B	Xylene, m/p	ug/l		2	U	2	U
SW8260B	Xylene, o	ug/l		1	U	1	U
SW8270C	1,2,4,5-Tetrachlorobenzene	ug/l		4.8	U	4.9	U
SW8270C	1-Methylnaphthalene	ug/l		4.8	U	0.052	J
SW8270C	2,3,4,6-Tetrachlorophenol	ug/l		4.8	UJ	4.9	U
SW8270C	2,4,5-Trichlorophenol	ug/l		4.8	UJ	4.9	U
SW8270C	2,4,6-Trichlorophenol	ug/l		4.8	UJ	4.9	U
SW8270C	2,4-Dichlorophenol	ug/l		4.8	UJ	4.9	U
SW8270C	2,4-Dimethylphenol	ug/l		4.8	UJ	4.9	U
SW8270C	2,4-Dinitrophenol	ug/l		4.8	UJ	4.9	U
SW8270C	2,4-Dinitrotoluene	ug/l		4.8	U	4.9	U
SW8270C	2,6-Dinitrotoluene	ug/l		4.8	U	4.9	U
SW8270C	2-Chloronaphthalene	ug/l		4.8	U	4.9	U
SW8270C	2-Chlorophenol	ug/l		4.8	UJ	4.9	U
SW8270C	2-Methylnaphthalene	ug/l		0.95	U	0.97	U

REDACTED

Table 2
Final Results Summary
July/August 2010 Residential Groundwater
Olin Chemical Superfund Site
Wilmington, Massachusetts

		Location	[redacted]	M-27/L14C		M-27/L14C	
		COC Sample		OC-M27L14C		OC-M27L14C	
		Date Sampled		07/01/10		08/06/10	
		Sample Type		FS		FS	
		Report Number		360-29031-1		360-29554-1	
Method	Parameter Name	Units		Result	Qualifier	Result	Qualifier
SW8270C	2-Methylphenol	ug/l		4.8	UJ	4.9	U
SW8270C	2-Nitroaniline	ug/l		4.8	U	4.9	U
SW8270C	2-Nitrophenol	ug/l		4.8	UJ	4.9	U
SW8270C	3 & 4 Methylphenol	ug/l		4.8	UJ	4.9	U
SW8270C	3,3`-Dichlorobenzidine	ug/l		4.8	U	4.9	U
SW8270C	3-Nitroaniline	ug/l		4.8	U	4.9	U
SW8270C	4,6-Dinitro-2-methylphenol	ug/l		4.8	UJ	4.9	U
SW8270C	4-Bromophenyl phenyl ether	ug/l		4.8	U	4.9	U
SW8270C	4-Chloro-3-methylphenol	ug/l		4.8	UJ	4.9	U
SW8270C	4-Chloroaniline	ug/l		4.8	UJ	4.9	U
SW8270C	4-Chlorophenyl phenyl ether	ug/l		4.8	U	4.9	U
SW8270C	4-Nitroaniline	ug/l		4.8	U	4.9	U
SW8270C	4-Nitrophenol	ug/l		4.8	UJ	4.9	U
SW8270C	Acenaphthene	ug/l		0.95	U	0.97	U
SW8270C	Acenaphthylene	ug/l		0.29	U	0.29	U
SW8270C	Acetophenone	ug/l		4.8	U	4.9	U
SW8270C	Aniline	ug/l		4.8	UJ	4.9	UJ
SW8270C	Anthracene	ug/l		0.95	U	0.97	U
SW8270C	Atrazine	ug/l		4.8	U	4.9	U
SW8270C	Azobenzene	ug/l		4.8	U	4.9	U
SW8270C	Benzaldehyde	ug/l		4.8	U	4.9	U
SW8270C	Benzo(a)anthracene	ug/l		0.29	U	0.29	U
SW8270C	Benzo(a)pyrene	ug/l		0.19	U	0.19	U
SW8270C	Benzo(b)fluoranthene	ug/l		0.29	U	0.29	U
SW8270C	Benzo(ghi)perylene	ug/l		0.48	U	0.49	U
SW8270C	Benzo(k)fluoranthene	ug/l		0.29	U	0.29	U
SW8270C	Benzoic Acid	ug/l			R		R
SW8270C	Benzyl alcohol	ug/l		9.5	U	9.7	U
SW8270C	Biphenyl	ug/l		4.8	U	4.9	U
SW8270C	Bis(2-Chloroethoxy)methane	ug/l		4.8	U	4.9	U
SW8270C	Bis(2-Chloroethyl)ether	ug/l		4.8	U	4.9	U
SW8270C	Bis(2-Chloroisopropyl)ether	ug/l		4.8	U	4.9	U
SW8270C	Bis(2-Ethylhexyl)phthalate	ug/l		1.9	U	5.9	U
SW8270C	Butylbenzylphthalate	ug/l		4.8	UJ	4.9	U
SW8270C	Caprolactum	ug/l		4.8	U	4.9	UJ
SW8270C	Carbazole	ug/l		4.8	U	4.9	U
SW8270C	Chrysene	ug/l		0.95	U	0.97	U
SW8270C	Di-n-butylphthalate	ug/l		4.8	U	4.9	U
SW8270C	Di-n-octylphthalate	ug/l		4.8	U	4.9	U
SW8270C	Dibenz(a,h)anthracene	ug/l		0.48	U	0.49	U
SW8270C	Dibenzofuran	ug/l		4.8	U	4.9	U
SW8270C	Diethylphthalate	ug/l		4.8	U	4.9	U
SW8270C	Dimethylphthalate	ug/l		4.8	U	4.9	U
SW8270C	Diphenyl ether	ug/l		4.8	U	4.9	U
SW8270C	Diphenylmethanone	ug/l		4.8	U	4.9	U

REDACTED

Table 2
Final Results Summary
July/August 2010 Residential Groundwater
Olin Chemical Superfund Site
Wilmington, Massachusetts

		Location	[redacted]	M-27/L14C		M-27/L14C	
		COC Sample		OC-M27L14C		OC-M27L14C	
		Date Sampled		07/01/10		08/06/10	
		Sample Type		FS		FS	
		Report Number		360-29031-1		360-29554-1	
Method	Parameter Name	Units		Result	Qualifier	Result	Qualifier
SW8270C	Fluoranthene	ug/l		0.95	U	0.97	U
SW8270C	Fluorene	ug/l		0.95	UJ	0.97	U
SW8270C	Hexachlorobenzene	ug/l		0.95	U	0.97	U
SW8270C	Hexachlorocyclopentadiene	ug/l		4.8	UJ	4.9	U
SW8270C	Hexachloroethane	ug/l		2.9	U	2.9	U
SW8270C	Indeno(1,2,3-cd)pyrene	ug/l		0.48	U	0.49	U
SW8270C	Isophorone	ug/l		4.8	U	4.9	U
SW8270C	N-Nitrosodi-n-propylamine	ug/l		4.8	U	4.9	U
SW8270C	N-Nitrosodiphenylamine	ug/l		4.8	U	4.9	U
SW8270C	Nitrobenzene	ug/l		4.8	U	4.9	U
SW8270C	Pentachlorophenol	ug/l		0.95	UJ	0.97	U
SW8270C	Phenanthrene	ug/l		0.19	U	0.19	U
SW8270C	Phenol	ug/l		4.8	UJ	4.9	UJ
SW8270C	Pyrene	ug/l		4.8	U	4.9	U
SW8315	Acetaldehyde	ug/l		30	U	30	U
SW8315	Formaldehyde	ug/l		30	U	5.1	J
SW6010	Calcium	ug/l		82000		79000	
SW6010	Chromium	ug/l		5	U	1	J
SW6010	Sodium	ug/l		23000		25000	
E300	Chloride	mg/l		110		92	J
E300	Nitrate as N	mg/l		0.064		0.05	U
E300	Nitrite as N	mg/l		0.1	U	0.1	U
LACH_107_06_1_B	Nitrogen, as Ammonia	mg/l		0.1	U	0.1	U
E300	Sulfate	mg/l		36		41	J
WS-MS-0012	N-Nitrosodi-n-propylamine	ng/l		9.5	U	11.0	U
WS-MS-0012	N-Nitrosodimethylamine	ng/l		2.9		2.1	U
LC65	Phthalic Acid/Phthalic anhydride	ug/l		10.00	UJ		
				1207024		1201524	
SW8315A MOD	Hydrazine	ug/l		0.20	U	0.20	UJ
SW8315A MOD	Monomethylhydrazine (MMH)	ug/l		0.50	U	0.50	UJ
SW8315A MOD	UDMH	ug/l		0.5	U	0.5	UJ

Notes:
N = normal
T = total (unfiltered)
FS = field sample
U = not detected, value is the detection limit
J = value is estimated
R = value is rejected and not usable
ug/l = micrograms per liter
mg/l = milligrams per liter

Prepared by/Date: KJC 10/11/10
Checked by/Date: WDC 10/12/10

REDACTED

Table 3
Data Validation Action Summary
July/August 2010 Residential Groundwater
Olin Chemical Superfund Site
Wilmington, Massachusetts

Lab Sample Delivery Group	Lab Sample ID	Analysis Method	Field Sample ID	Parameter	Lab Result	Lab Qualifier	Final Result	Final Qualifier	Validation Reason Code	Result Units
360-29554-1	360-29554-1	E300	OC-M27L14C	Chloride	92		92	J	MS-RPD	mg/l
360-29554-1	360-29554-1	E300	OC-M27L14C	Sulfate	41		41	J	MS-RPD	mg/l
360-29031-1	360-29031-1	LC65	OC-M27L14C	Phthalic Acid/Phthalic anhydride	10	U H	10	UJ	HT	ug/l
360-29554-1	360-29554-1	SW8260B	OC-M27L14C	Acetone	50	U *	50	UJ	LCS-L	ug/l
360-29554-1	360-29554-1	SW8270C	OC-M27L14C	Bis(2-Ethylhexyl)phthalate	5.9	B	5.9	U	BL	ug/l
360-29031-1	360-29031-1	SW8270C	OC-M27L14C	Di-n-butylphthalate	2.1	J B	4.8	U	BL	ug/l
360-29554-1	360-29554-1	SW8270C	OC-M27L14C	Di-n-butylphthalate	1.9	J B	4.9	U	BL	ug/l
360-29031-1	360-29031-1	SW8270C	OC-M27L14C	Butylbenzylphthalate	4.8	U	4.8	UJ	CCV%D	ug/l
360-29031-1	360-29031-1	SW8270C	OC-M27L14C	4-Chloroaniline	4.8	U *	4.8	UJ	CCV%D, LCS-L	ug/l
360-29031-1	360-29031-1	SW8270C	OC-M27L14C	Benzoic Acid	4.8	U *	4.8	R	CCV%D, LCS-L, SS-L	ug/l

REDACTED

Table 3
Data Validation Action Summary
July/August 2010 Residential Groundwater
Olin Chemical Superfund Site
Wilmington, Massachusetts

Lab Sample Delivery Group	Lab Sample ID	Analysis Method	Field Sample ID	Parameter	Lab Result	Lab Qualifier	Final Result	Final Qualifier	Validation Reason Code	Result Units
[redacted]										

REDACTED

Table 3
Data Validation Action Summary
July/August 2010 Residential Groundwater
Olin Chemical Superfund Site
Wilmington, Massachusetts

Lab Sample Delivery Group	Lab Sample ID	Analysis Method	Field Sample ID	Parameter	Lab Result	Lab Qualifier	Final Result	Final Qualifier	Validation Reason Code	Result Units
360-29031-1	360-29031-1	SW8270C	OC-M27L14C	Aniline	4.8	U *	4.8	UJ	LCS-L	ug/l
360-29554-1	360-29554-1	SW8270C	OC-M27L14C	Aniline	4.9	U *	4.9	UJ	LCS-L	ug/l
360-29554-1	360-29554-1	SW8270C	OC-M27L14C	Caprolactum	4.9	U *	4.9	UJ	LCS-L	ug/l
360-29031-1	360-29031-1	SW8270C	OC-M27L14C	Fluorene	0.95	U	0.95	UJ	LCS-L	ug/l
360-29031-1	360-29031-1	SW8270C	OC-M27L14C	Hexachlorocyclopentadiene	4.8	U *	4.8	UJ	LCS-L	ug/l

REDACTED

Table 3
Data Validation Action Summary
July/August 2010 Residential Groundwater
Olin Chemical Superfund Site
Wilmington, Massachusetts

Lab Sample Delivery Group	Lab Sample ID	Analysis Method	Field Sample ID	Parameter	Lab Result	Lab Qualifier	Final Result	Final Qualifier	Validation Reason Code	Result Units
360-29554-1	360-29554-1	SW8270C	OC-M27L14C	Phenol	4.9	U *	4.9	UJ	LCS-L	ug/l

REDACTED

Table 3
Data Validation Action Summary
July/August 2010 Residential Groundwater
Olin Chemical Superfund Site
Wilmington, Massachusetts

Lab Sample Delivery Group	Lab Sample ID	Analysis Method	Field Sample ID	Parameter	Lab Result	Lab Qualifier	Final Result	Final Qualifier	Validation Reason Code	Result Units
[redacted]										

REDACTED

Table 3
Data Validation Action Summary
July/August 2010 Residential Groundwater
Olin Chemical Superfund Site
Wilmington, Massachusetts

Lab Sample Delivery Group	Lab Sample ID	Analysis Method	Field Sample ID	Parameter	Lab Result	Lab Qualifier	Final Result	Final Qualifier	Validation Reason Code	Result Units
[redacted]										

REDACTED

Table 3
Data Validation Action Summary
July/August 2010 Residential Groundwater
Olin Chemical Superfund Site
Wilmington, Massachusetts

Lab Sample Delivery Group	Lab Sample ID	Analysis Method	Field Sample ID	Parameter	Lab Result	Lab Qualifier	Final Result	Final Qualifier	Validation Reason Code	Result Units
[redacted]										

REDACTED

Table 3
Data Validation Action Summary
July/August 2010 Residential Groundwater
Olin Chemical Superfund Site
Wilmington, Massachusetts

Lab Sample Delivery Group	Lab Sample ID	Analysis Method	Field Sample ID	Parameter	Lab Result	Lab Qualifier	Final Result	Final Qualifier	Validation Reason Code	Result Units
[redacted]										

REDACTED

Table 3
Data Validation Action Summary
July/August 2010 Residential Groundwater
Olin Chemical Superfund Site
Wilmington, Massachusetts

Lab Sample Delivery Group	Lab Sample ID	Analysis Method	Field Sample ID	Parameter	Lab Result	Lab Qualifier	Final Result	Final Qualifier	Validation Reason Code	Result Units
[redacted]										

REDACTED

Table 3
Data Validation Action Summary
July/August 2010 Residential Groundwater
Olin Chemical Superfund Site
Wilmington, Massachusetts

Lab Sample Delivery Group	Lab Sample ID	Analysis Method	Field Sample ID	Parameter	Lab Result	Lab Qualifier	Final Result	Final Qualifier	Validation Reason Code	Result Units
[redacted]										

REDACTED

Table 3
Data Validation Action Summary
July/August 2010 Residential Groundwater
Olin Chemical Superfund Site
Wilmington, Massachusetts

Lab Sample Delivery Group	Lab Sample ID	Analysis Method	Field Sample ID	Parameter	Lab Result	Lab Qualifier	Final Result	Final Qualifier	Validation Reason Code	Result Units
[redacted]										
360-29554-1	360-29554-1	SW8270C	OC-M27L14C	Benzoic Acid	4.9	U *		R	LCS-RPD, ICVRRF	ug/l
360-29031-1	360-29031-1	SW8270C	OC-M27L14C	2,3,4,6-Tetrachlorophenol	4.8	U	4.8	UJ	SS-L	ug/l
360-29031-1	360-29031-1	SW8270C	OC-M27L14C	2,4,5-Trichlorophenol	4.8	U	4.8	UJ	SS-L	ug/l
360-29031-1	360-29031-1	SW8270C	OC-M27L14C	2,4,6-Trichlorophenol	4.8	U	4.8	UJ	SS-L	ug/l
360-29031-1	360-29031-1	SW8270C	OC-M27L14C	2,4-Dichlorophenol	4.8	U	4.8	UJ	SS-L	ug/l
360-29031-1	360-29031-1	SW8270C	OC-M27L14C	2,4-Dimethylphenol	4.8	U	4.8	UJ	SS-L	ug/l
360-29031-1	360-29031-1	SW8270C	OC-M27L14C	2,4-Dinitrophenol	4.8	U	4.8	UJ	SS-L	ug/l
360-29031-1	360-29031-1	SW8270C	OC-M27L14C	2-Chlorophenol	4.8	U	4.8	UJ	SS-L	ug/l
360-29031-1	360-29031-1	SW8270C	OC-M27L14C	2-Methylphenol	4.8	U	4.8	UJ	SS-L	ug/l
360-29031-1	360-29031-1	SW8270C	OC-M27L14C	2-Nitrophenol	4.8	U	4.8	UJ	SS-L	ug/l
360-29031-1	360-29031-1	SW8270C	OC-M27L14C	3 & 4 Methylphenol	4.8	U	4.8	UJ	SS-L	ug/l
360-29031-1	360-29031-1	SW8270C	OC-M27L14C	4,6-Dinitro-2-methylphenol	4.8	U	4.8	UJ	SS-L	ug/l
360-29031-1	360-29031-1	SW8270C	OC-M27L14C	4-Chloro-3-methylphenol	4.8	U	4.8	UJ	SS-L	ug/l
360-29031-1	360-29031-1	SW8270C	OC-M27L14C	4-Nitrophenol	4.8	U *	4.8	UJ	SS-L	ug/l
360-29031-1	360-29031-1	SW8270C	OC-M27L14C	Pentachlorophenol	0.95	U	0.95	UJ	SS-L	ug/l
360-29031-1	360-29031-1	SW8270C	OC-M27L14C	Phenol	4.8	U *	4.8	UJ	SS-L, LCS-L	ug/l
360-29031-1	360-29031-1	SW8315	OC-M27L14C	Formaldehyde	5.1	J B	30	U	BL	ug/l
1201524	6023530	SW8315A MOD	OC-M27L14C	Hydrazine	0.2	U	0.2	UJ	HT	ug/l
1201524	6023530	SW8315A MOD	OC-M27L14C	Monomethylhydrazine (MMH)	0.5	U	0.5	UJ	HT	ug/l
1201524	6023530	SW8315A MOD	OC-M27L14C	UDMH	0.5	U	0.5	UJ	HT	ug/l
[redacted]										

REDACTED

Units:

Prepared by / Date: KJC 10/11/10

Table 3
Data Validation Action Summary
July/August 2010 Residential Groundwater
Olin Chemical Superfund Site
Wilmington, Massachusetts

Lab Sample Delivery Group	Lab Sample ID	Analysis Method	Field Sample ID	Parameter	Lab Result	Lab Qualifier	Final Result	Final Qualifier	Validation Reason Code	Result Units

mg/L = milligram per liter
ug/L = microgram per liter
ng/L = nanogram per liter

Checked by / Date: WDC 10/12/10

Validation Qualifier:

U = not detected, value is the detection limit
J = value is estimated
R = rejected

Validation Reason Codes:

BL = QC Blank Qualifier
CCV%D = Continuing calibration %D
CCVRRF = Continuing calibration RRF
HT = Holding time exceeded
ICVRRF = Initial calibration RRF
IS-L = Internal Standard response below limit
LCS = Analyte not present in spikeing mix
LCS-L = LCS recovery low
LCS-RPD = LCS-LCSD RPD limit exceeded
MS-L = MS and/or MSD recovery low
MS-RPD - MS-MSD RPD limit exceeded
SS-L = Surrogate recovery below limits

REDACTED

Table 4
Final Results Summary - Tentatively Identified Compounds
July/August 2010 Residential Sampling
Olin Chemical Superfund Site
Wilmington, Massachusetts

Lab Del Group	lab sample id	lab anl method name	sample name	sample date	analysis date	analysis time	cas rn	chemical name	TIC retention time	result value	lab qualifiers	final qualifier	result unit	dilution factor
360-29031-1	360-29031-1	SW8270C	OC-M27L14C	01-Jul-10	07-Jul-10	15:02:00	TIC06	Unknown	7.44	0.56	T J	NJ	ug/l	1
360-29031-1	360-29031-1	SW8270C	OC-M27L14C	01-Jul-10	07-Jul-10	15:02:00	TIC10	Unknown	8.04	0.52	T J	NJ	ug/l	1

REDACTED

Table 4
Final Results Summary - Tentatively Identified Compounds
July/August 2010 Residential Sampling
Olin Chemical Superfund Site
Wilmington, Massachusetts

Lab Del Group	lab sample id	lab an method name	sample name	sample date	analysis date	analysis time	cas rn	chemical name	TIC retention time	result value	lab qualifiers	final qualifier	result unit	dilution factor
360-29554-1	360-29554-1	SW8270C	OC-M27L14C	06-Aug-10	12-Aug-10	20:41:00	TIC04	Unknown	10.85	0.36	T J	NJ	ug/l	1
360-29554-1	360-29554-1	SW8270C	OC-M27L14C	06-Aug-10	12-Aug-10	20:41:00	TIC05	Unknown	10.93	0.35	T J	NJ	ug/l	1
360-29554-1	360-29554-1	SW8270C	OC-M27L14C	06-Aug-10	12-Aug-10	20:41:00	TIC06	Unknown	11.48	0.39	T J	NJ	ug/l	1
360-29554-1	360-29554-1	SW8270C	OC-M27L14C	06-Aug-10	12-Aug-10	20:41:00	TIC07	Unknown	12.12	0.38	T J	NJ	ug/l	1
360-29554-1	360-29554-1	SW8270C	OC-M27L14C	06-Aug-10	12-Aug-10	20:41:00	TIC08	Unknown	13.52	0.38	T J	NJ	ug/l	1
360-29554-1	360-29554-1	SW8270C	OC-M27L14C	06-Aug-10	12-Aug-10	20:41:00	TIC09	Unknown	15.1	0.47	T J	NJ	ug/l	1
360-29554-1	360-29554-1	SW8270C	OC-M27L14C	06-Aug-10	12-Aug-10	20:41:00	TIC01	Unknown	6.97	0.84	T J	NJ	ug/l	1
360-29554-1	360-29554-1	SW8270C	OC-M27L14C	06-Aug-10	12-Aug-10	20:41:00	TIC02	Unknown	7.52	0.38	T J	NJ	ug/l	1
360-29554-1	360-29554-1	SW8270C	OC-M27L14C	06-Aug-10	12-Aug-10	20:41:00	TIC03	Unknown	9.42	0.51	T J	NJ	ug/l	1

REDACTED

Table 4
Final Results Summary - Tentatively Identified Compounds
July/August 2010 Residential Sampling
Olin Chemical Superfund Site
Wilmington, Massachusetts

Lab Del Group	lab sample id	lab anl method name	sample name	sample date	analysis date	analysis time	cas rn	chemical name	TIC retention time	result value	lab qualifiers	final qualifier	result unit	dilution factor

T - Tentatively identified compound, the result is estimated
J - value is estimated
N - presumptively present
ug/L - microgram per liter

Prepared by / Date: KJC 09/15/10
Checked by / Date: WDC 10/12/10

REDACTED